

Product Evaluation

WIN63 | 1118

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: WIN-63

Effective Date: November 1, 2018

Re-evaluation Date: November 2022

Product Name: Glass Block Mortar Systems, Non-impact Resistant and Impact Resistant

Manufacturer: Seves Glass Block, Inc.
10576 Broadview Road
Broadview Heights, OH 44147
(330) 419-0989

General Description:

The glass block window systems evaluated in this report are site-built window assemblies using a traditional mortar installation method. The glass block mortar systems evaluated in this report are individual windows. The THICKSET® 90 and the VISTABRIK® glass block windows are impact resistant. The PREMIER, THICKSET® 60, and ENERGY SAVINGS glass block windows are non-impact resistant. Table 1 includes the glass block windows in this evaluation report:

Table 1: Glass Block Assemblies

Series	Nominal Dimensions	Face Thickness	Impact Resistance
PREMIER	12" x 12" x 4" and all other smaller face sizes	0.187" (0.375" for 12" x 12")	No
THICKSET® 60	8" x 8" x 4" and all other smaller face sizes	0.375"	No
THICKSET® 90	8" x 8" x 4" and all other smaller face sizes	0.750"	Yes

Table 1: Glass Block Assemblies (continued):

Series	Nominal Dimensions	Face Thickness	Impact Resistance
ENERGY SAVINGS	8" x 8" x 4" and all other smaller face sizes	0.187" (With 0.125" glass insert)	No
VISTABRIK®	8" x 8" x 3" and all other smaller face sizes	3" (nominal) thick solid units	Yes

Product Identification: The glass block windows are identified from the carton label. The words PREMIER, THICKSET® 60, THICKSET® 90, ENERGY SAVINGS, or VISTABRIK® will appear on the cartons.

Limitations:**Design Drawings:**

Glass block window assemblies must comply and be installed in accordance with the following design drawing:

Drawing No. MORTAR-001; "Glass Block Mortar System;" Sheets 1 thru 4 of 4; dated March 16, 2012; signed and sealed by Hermes F. Norero, P.E on March 08, 2017. This evaluation report refers to the stated drawings as the approved drawings.

Fabrication and Assembly: The glass blocks are fabricated in the factory. The glass block assemblies are installed at the jobsite block by block using a traditional mortar system. The glass block assembly must be installed as specified on the approved drawings.

Design pressure (DP):

Series	Maximum Width	Maximum Height	Design Pressure
PREMIER, THICKSET® 60, THICKSET® 90, ENERGY SAVINGS	48"	48"	+120 / -120 psf
PREMIER, THICKSET® 60, THICKSET® 90, ENERGY SAVINGS	72"	96"	+75 / -75 psf
VISTABRIK®	48"	96"	+80 / -80 psf

Impact Resistance:

- The PREMIER, THICKSET® 60, and ENERGY SAVINGS glass block windows do not satisfy the Texas Department of Insurance's criteria for protection from windborne debris. These window assemblies will need to be protected with an impact protective system when installed in areas where windborne debris protection is required.
- The THICKSET® 90 and the VISTABRIK® glass block windows satisfy the TDI's criteria for protection from windborne debris. The assemblies passed a missile impact test equivalent to Missile Level A specified in ASTM E 1996. When installed in areas where windborne debris protection is required, install the assemblies at a height greater than 30 feet above grade as long as the design pressure rating for the assembly is not exceeded. When installed at these heights, the assemblies do not require protection with an impact protective system. These window assemblies will need to be protected with an impact protective system when installed at heights less than 30 feet above grade and in areas where windborne debris protection is required.

Acceptance of Other Assemblies:

- The approved drawings specify the allowable dimensions for the glass block assemblies.
- Assemblies with rectangular dimension smaller than the dimension listed in the approved drawings are acceptable at the design pressure rating listed in the approved drawings.

Installation Instructions:

General: Prepare and install the assembly in accordance with the approved drawings and the manufacturer's installation instructions. Detailed installation instructions are available from the manufacturer.

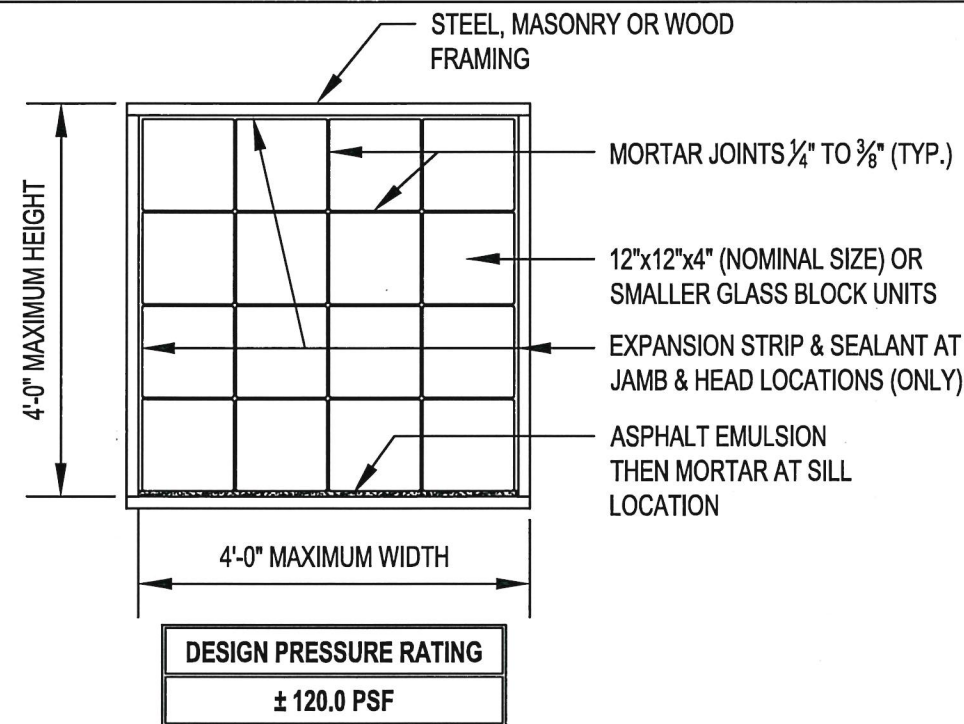
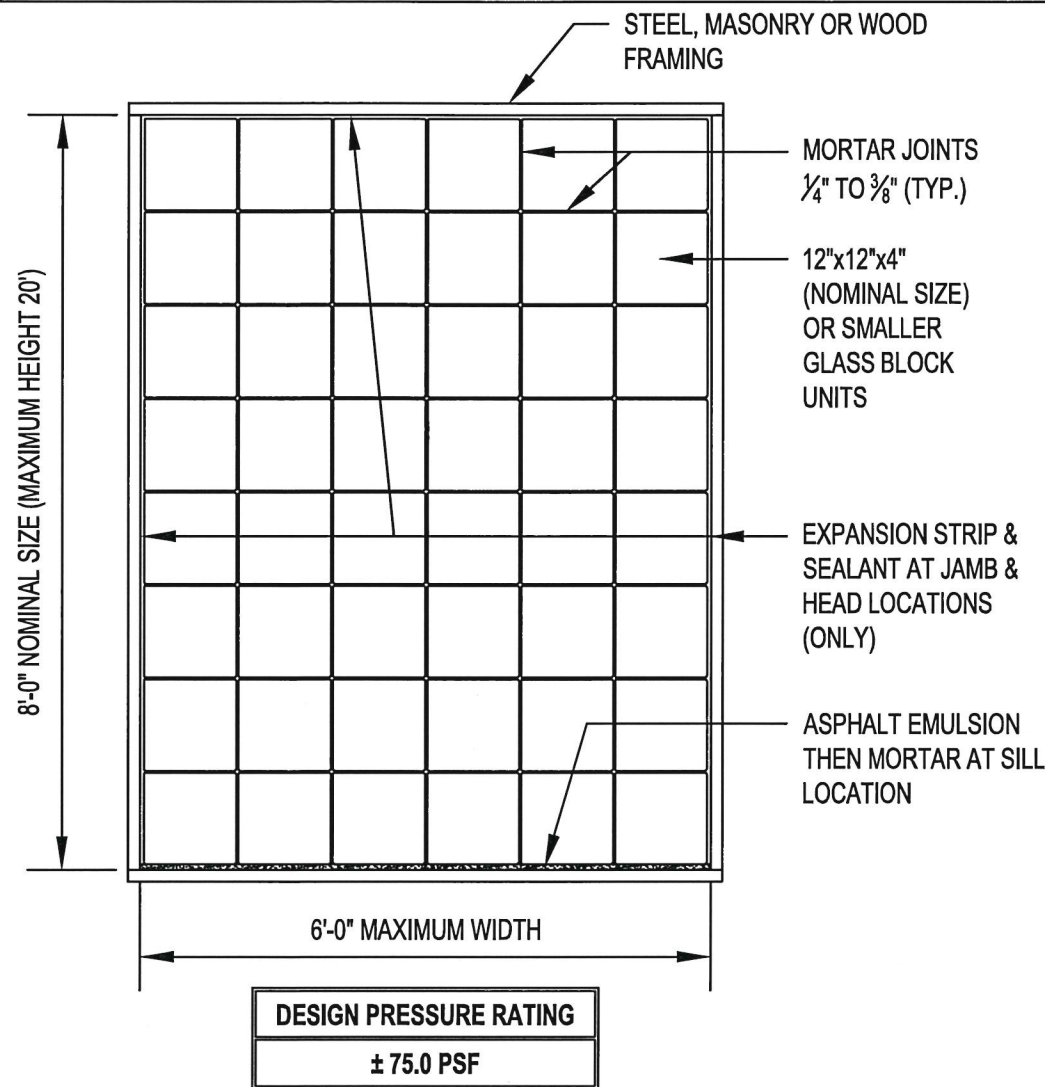
Installation:

Wall Framing Construction: The glass block assemblies must be secured to the wall framing as specified in the approved drawings.

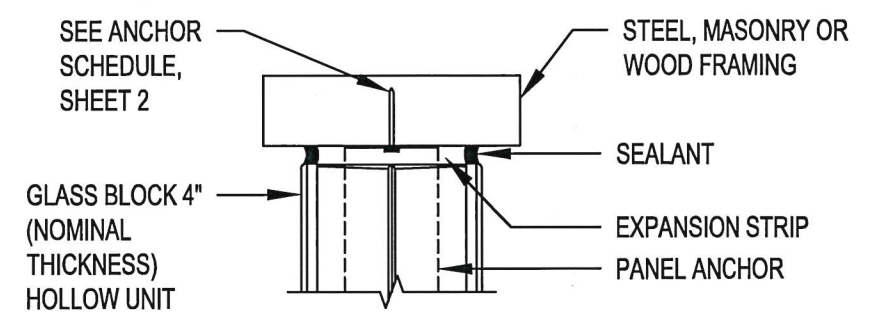
Fastener Requirements:

- Refer to the approved drawings for the anchor requirements and notes.
- Refer to the approved drawings for the minimum embedment depths for the fasteners and the minimum edge distances (minimum distance fastener must be from the edge of the substrate material) for the fasteners.

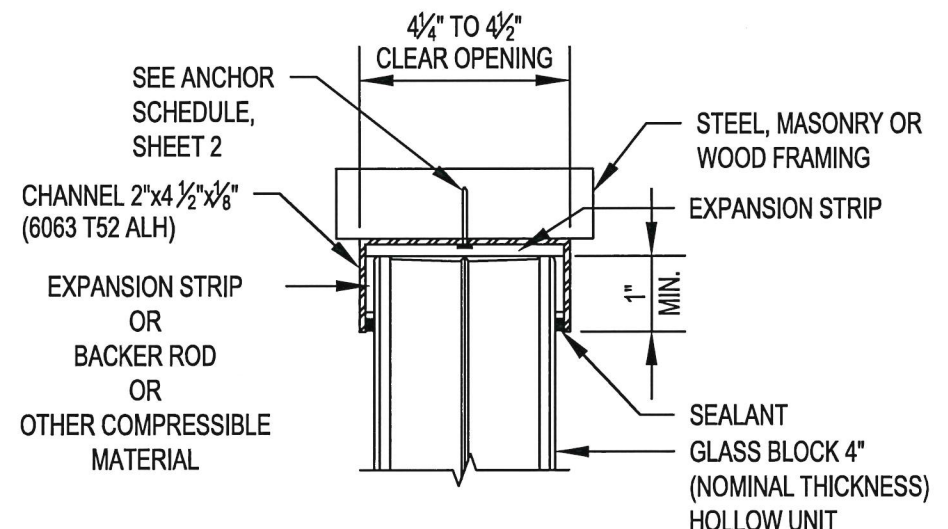
Note: Keep the manufacturer's installation instructions available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.



REVISIONS		
REV	DESCRIPTION	DATE
-	-	-



**PANEL ANCHOR RESTRAINT
DETAIL**
SCALE: 3" = 1'-0"



**CHANNEL RESTRAINT
DETAIL**
SCALE: 3" = 1'-0"

Digitally signed by Hermes F. Norero, P.E.
Reason: I am approving this document
Date: 2017.03.08 17:30:12 -05'00'

SEVES GLASS BLOCK HOLLOW UNITS (NOMINAL) 4" THICK					
SERIES	PATTERNS	NOMINAL DIM.	FACE THICKNESS	LARGE MISSILE IMPACT RESISTANT	SMALL MISSILE IMPACT RESISTANT
PREMIERE All 4" thick (nominal) Glass Block	All patterns	12"x12"x4" and all other smaller face sizes	0.187" (0.375" for 12"x12")	No	No
THICKSET® 60 All 4" thick (nominal) Glass Block	All patterns	8"x8"x4" and all other smaller face sizes	0.375"	No	No
THICKSET® 90 All 4" thick (nominal) Glass Block	All patterns	8"x8"x4" and all other smaller face sizes	0.750"	No	Yes Can be used without hurricane protection above 30 ft. from grade
ENERGY SAVINGS All 4" thick (nominal) Glass Block (with inserts)	All patterns	8"x8"x4" and all other smaller face sizes	0.187" (With 0.125" glass insert)	No	No

<p>HERMES F. NORERO 118471 PROFESSIONAL ENGINEER</p> <p>HERMES F. NORERO, P.E. TEXAS P.E. NO. 118471 398 E. DANIA BEACH BLVD., STE. 338 DANIA BEACH, FL 33004 TBPE FIRM NO. 13734</p>	TITLE		
	<h2>Glass Block Mortar System 4" Thick Hollow Glass Block</h2>		
	<p>SEVES GLASS BLOCK, INC. 10576 BROADVIEW ROAD BROADVIEW HEIGHTS, OH 44147</p>		
	SCALE	DWG. NO.	REV
1/2" = 1'-0"	MORTAR-001	0	
BY	DATE	SHEET	
LMS	03/16/2012	1 OF 4	

SPECIFICATIONS (FOR NOMINAL 4" THICK HOLLOW GLASS BLOCK):

- **GLASS BLOCK UNITS:** 12"x12"x4" (nominal size) or smaller (face dimensions). Glass block thickness must be minimum 4" nominal (3 7/8" actual). Glass block units may be colored, may have glass inserts with coatings (Energy Savings Glass Block), and may have metallic oxide coatings (Solar Reflective Coatings), as manufactured by Seves Glass Block.
- **MORTAR:** Type "S" per ASTM C270.
- **REINFORCEMENT:** Ladder Type, 9-gauge, 2" wide with butt-welded crosswires spaced at 16" o.c., hot-dipped galvanized or stainless steel, as available from Seves Glass Block Inc. Placement is at horizontal joints (only) at a spacing of no more than 16" o.c. vertically. **Note:** Placement of reinforcing for 12"x12"x4" (nominal sized) glass block is at every horizontal joint.
- **PANEL ANCHORS:** Hot-dipped galvanized 20-gauge perforated steel strips, 24" long by 1 3/4" wide, or stainless steel 22-gauge perforated steel strips, 16" long by 1 3/4" wide, as available from Seves Glass Block. Placement is at both jamb and head locations. See anchor schedule for specific anchor types and spacing. **Note:** Placement of panel anchors for 12"x12"x4" (nominal sized) glass block is at every joint up both jambs and across the head. Embedment of panel anchors into mortar joints shall be at least 12 inches.
- **CHANNELS:** Aluminum (6063-T52ALH) 2"x4 1/2"x1/8", as available from Julius Blum & Co., Inc. (1-800-526-6293), or equal. Placement is at both jamb and head locations. See anchor schedule for specific anchor types and spacing.
- **EXPANSION MATERIAL:** Polyethylene type, 3/8" thick, as available from Seves Glass Block. Placed at both jamb and head locations.
- **SEALANT:** Silicone type. Placed at both jamb and head locations and on both exterior and interior sides.
- **ASPHALT EMULSION:** A water-based asphalt emulsion, by Karnak Chemical Corporation (Karnak 100, 1-800-526-4236), or equal.

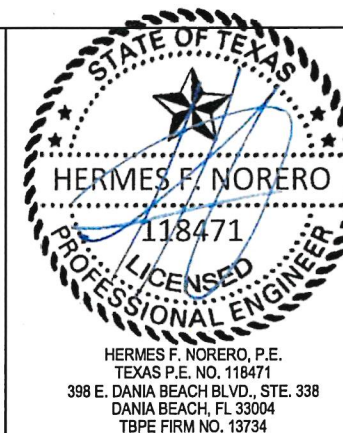
REVISIONS		
REV	DESCRIPTION	DATE
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REQUIRED MINIMUM ANCHOR SPACING

SIZE	DESIGN PRESSURE	ALUMINUM ANGLE / CHANNEL SPACING		STEEL PANEL ANCHOR SPACING	
		HEAD	JAMBS	HEAD	JAMBS
48"x48"	+120/-120 PSF	2" FROM CORNER, 16" O.C.	2" FROM CORNER, 11" O.C.	MAX. 16" O.C. (MIN. (2) ANCHORS PER LOCATION)	MAX. 16" O.C. (MIN. (2) ANCHORS PER LOCATION)
48"x96"	+80/-80 PSF	2" FROM CORNER, 16" O.C.	2" FROM CORNER, 16" O.C.	MAX. 16" O.C. (MIN. (2) ANCHORS PER LOCATION)	MAX. 16" O.C. (MIN. (2) ANCHORS PER LOCATION)
72"x96"	+75/-75 PSF	2" FROM CORNER, 16" O.C.	2" FROM CORNER, 11 1/2" O.C.	MAX. 16" O.C. (MIN. (2) ANCHORS PER LOCATION)	MAX. 16" O.C. (MIN. (2) ANCHORS PER LOCATION)

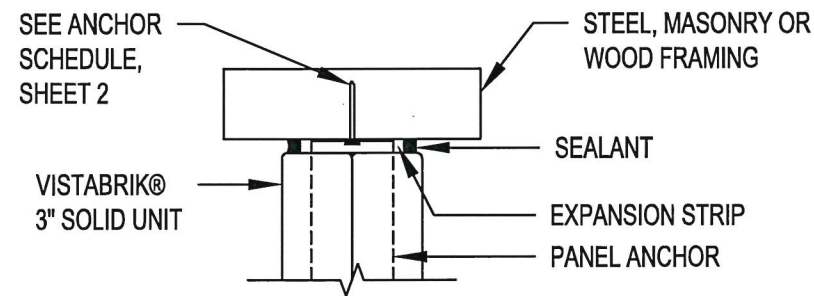
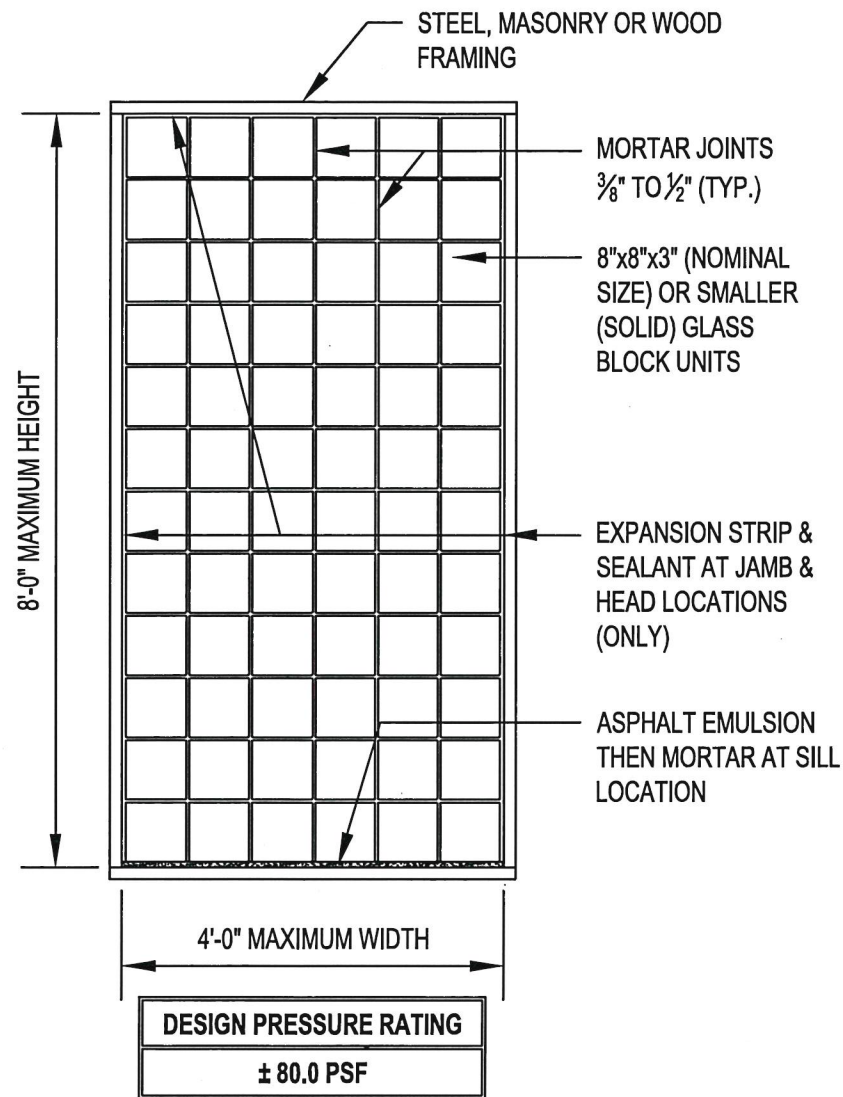
ANCHORAGE SCHEDULE

SUBSTRATE	MATERIAL DATA	FASTENER	MIN. EMBEDMENT (E)	MIN. EDGE DISTANCE (E.D.)
STEEL	MIN. 18 GA. f _y = 33 KSI	#10 SDS SAE GR. 5 SCREW (FLAT HEAD)	3 THREADS PENETRATION BEYOND STEEL FRAMING	N/A
CONCRETE	MIN. f _c = 3000 PSI	3/16" Ø HILTI KWIK CON II (FLAT HEAD)	1"	2 1/2"
MASONRY	CONFORMS TO ASTM C90 GROUT CONFORMS TO ASTM C476 MIN. GROUT f _c = 2000 PSI	3/16" Ø HILTI KWIK CON II (FLAT HEAD)	1"	2 1/2"
WOOD	MIN. S.G. = 0.42	#10 WOOD SCREW (FLAT HEAD)	1 1/2"	3/4"



TITLE			
Glass Block Mortar System 4" Thick Hollow Glass Block			
SEVES GLASS BLOCK, INC. 10576 BROADVIEW ROAD BROADVIEW HEIGHTS, OH 44147			
SCALE	DWG. NO.	REV	
1/2" = 1'-0"	MORTAR-001	0	
BY	DATE	SHEET	
LMS	03/16/2012	2 OF 4	

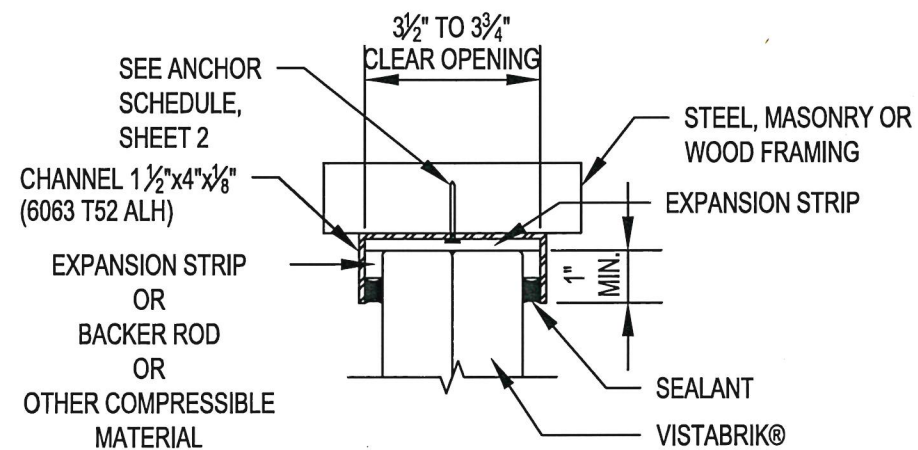
REVISIONS		
REV	DESCRIPTION	DATE
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PANEL ANCHOR RESTRAINT

DETAIL

SCALE: 3" = 1'-0"



CHANNEL RESTRAINT

DETAIL

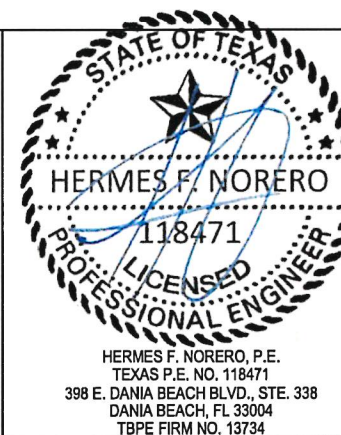
SCALE: 3" = 1'-0"

SPECIFICATIONS (FOR NOMINAL 3" THICK SOLID GLASS BLOCK):

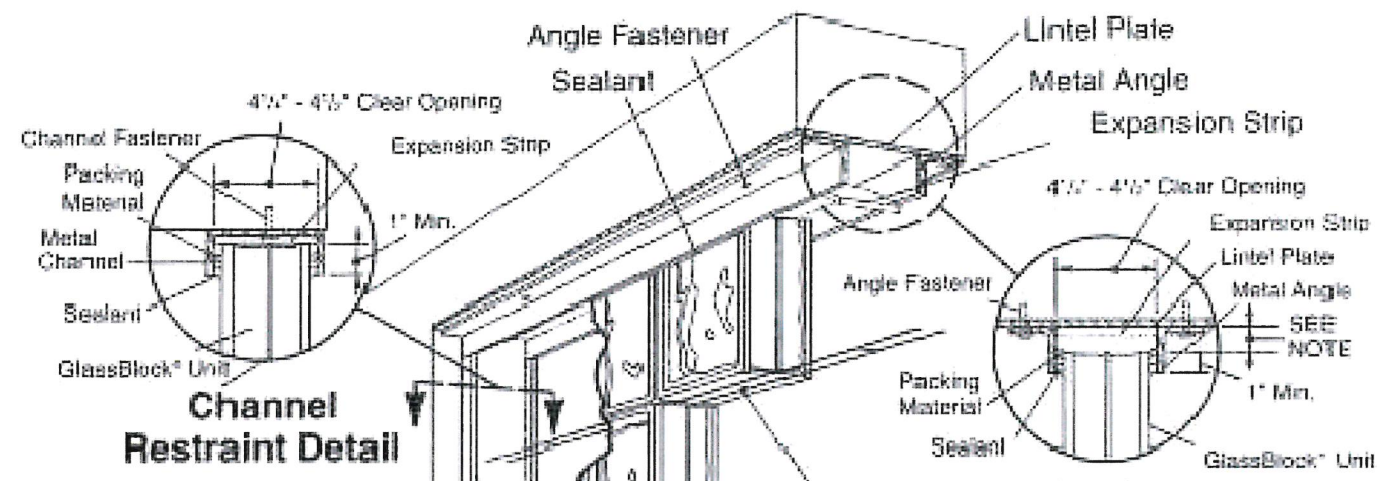
- GLASS BLOCK UNITS:** 8"x8"x3" (nominal size) or smaller (face dimensions). Solid glass block must be minimum 3" thick, as manufactured by Seves Glass Block.
- MORTAR:** Type "S" per ASTM C270.
- REINFORCEMENT:** Ladder Type, 9-gauge, 1 $\frac{5}{8}$ " wide with butt-welded crosswires spaced at 16" o.c., hot-dipped galvanized or stainless steel, as available from Seves Glass Block Inc. Placement is at horizontal joints (only) at a spacing of no more than 16" o.c. vertically.
- PANEL ANCHORS:** Hot-dipped galvanized 20-gauge perforated steel strips, 24" long by 1 $\frac{3}{4}$ " wide, or stainless steel 22-gauge perforated steel strips, 16" long by 1 $\frac{3}{4}$ " wide, as available from Seves Glass Block. Placement is at both jamb and head locations. See anchor schedule for specific anchor types and spacing. Embedment of panel anchors into mortar joints shall be at least 12 inches.
- CHANNELS:** Aluminum (6063-T52ALH) 1 $\frac{1}{2}$ "x4"x $\frac{1}{8}$ ", as available from Julius Blum & Co., Inc. (1-800-526-6293), or equal. Placement is at both jamb and head locations. See anchor schedule for specific anchor types and spacing.
- EXPANSION MATERIAL:** Polyethylene type, $\frac{3}{8}$ " thick, as available from Seves Glass Block. Placed at both jamb and head locations.
- SEALANT:** Silicone type. Placed at both jamb and head locations and on both exterior and interior sides.
- ASPHALT EMULSION:** A water-based asphalt emulsion, by Karnak Chemical Corporation (Karnak 100, 1-800-526-4236), or equal.

SEVES GLASS BLOCK INC. SOLID UNITS (NOMINAL) 3" THICK

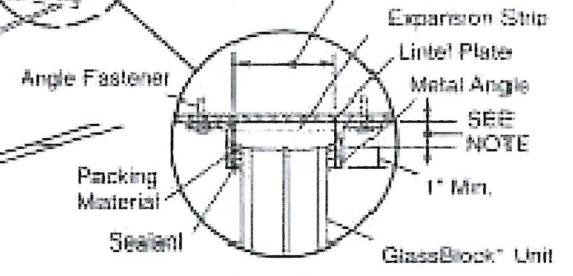
SERIES	PATTERNS	NOMINAL DIM.	FACE THICKNESS	LARGE MISSILE IMPACT RESISTANT	SMALL MISSILE IMPACT RESISTANT
VISTABRIK® Solid Units All 3" thick (nominal)	All patterns	8"x8"x3" and all other smaller face sizes	3" (nominal) thick solid units	No	Yes Can be used without hurricane protection above 30 ft. from grade



TITLE			
Glass Block Mortar System 3" Thick Solid Glass Block			
SEVES GLASS BLOCK, INC. 10576 BROADVIEW ROAD BROADVIEW HEIGHTS, OH 44147			
SCALE	DWG. NO.	REV	
1/2" = 1'-0"	MORTAR-001	0	
BY	DATE	SHEET	3 OF 4
LMS	03/16/2012		



Channel Restraint Detail

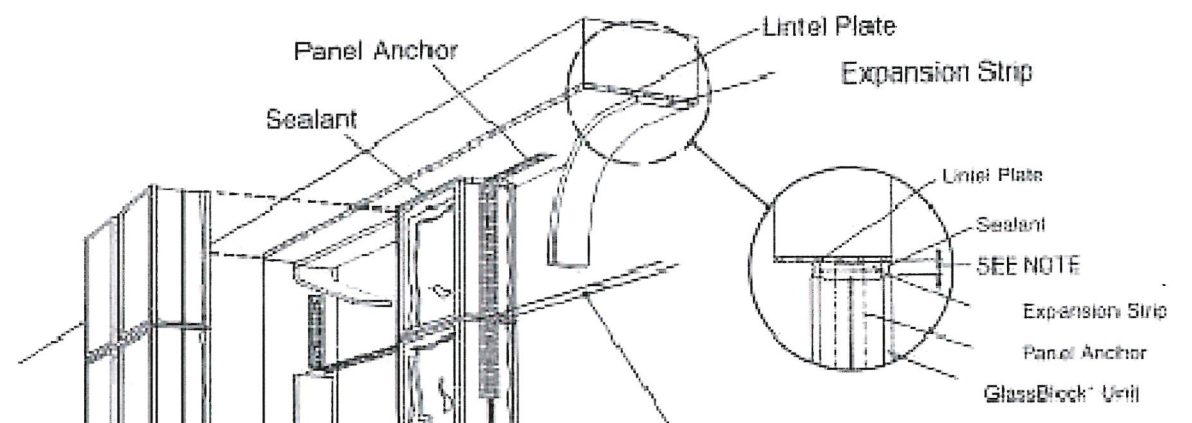


Angle Restraint Detail

NOTE:
This dimension is determined by the anticipated deflection of the structural member above the glass block.

Wall framing shown here for illustrative purposes only. Wall framing can be concrete, masonry, wood, steel or any other structural surround.

CHANNEL TYPE RESTRAINT CONSTRUCTION



NOTE:
This dimension is determined by the anticipated deflection of the structural member above the glass block.

Wall framing shown here for illustrative purposes only. Wall framing can be concrete, masonry, wood, steel or any other structural surround.

PANEL ANCHOR CONSTRUCTION

REVISIONS		
REV	DESCRIPTION	DATE
-	-	-



TITLE Glass Block Mortar System Generic Construction Details - Isometric Views			
SEVES GLASS BLOCK, INC. 10576 BROADVIEW ROAD BROADVIEW HEIGHTS, OH 44147			
SCALE NTS	DWG. NO. MORTAR-001	REV 0	
BY LMS	DATE 03/02/2012	SHEET 4 OF 4	